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How KENNAMETAL* helps to send it on its way

Seal rings in pumps handling red fuming nitric acid for rockets face a most severe test against corrosion, especially since they may be in contact with the acid for years before being required to operate.

In one particular assembly, rings were exposed to temperatures of 300° under 45 psi face pressures while rotating 17,500 rpm. The previously used material lasted approximately 120 minutes. Then rings made of Kennametal grade K501 were installed and one of the world's leading designers and manufacturers of aircraft components and systems, reports average life of the Kennametal rings as "over 120 minutes to indefinite."

They state that "the Kennametal rings sealing results have been far superior with no indication of seal face wear" and that "the Kennametal ring has indications of less bending and distortion when installed between two mounting faces making assembly simpler and reducing assembly time."

This is only one of the dozens of instances in the development of missiles and rockets where getting a design off the board and into the air depended on finding materials with unusual properties. Kennametal has been usually successful in filling these needs, providing not only corrosion resistance, but heat and abrasion resistance, also.

Why not get full information . . . and, if you wish, recommendations as to which Kennametal type would best fit your particular needs. Just write KENNAMETAL INC., Dept. DT, Latrobe, Pa., and ask for our new 12-page Kentanium booklet.

*Kennametal and Kentanium are the trademarks of a series of hard carbide alloys of tungsten, tungsten-titanium and tantalum. C-3005



Volume 4

Number 1

data^{*} magazine

* Title registered United States Patent Office

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DATA PUBLICATIONS

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OUR COVER

Arcing high above the moving North American Aviation T2J, an anthropomorphic dummy is ejected by rocket on the main runway at Port Columbus (Ohio). The T2J was held near take-off speeds to demonstrate the ground-level capability of safe ejections. After the seat automatically pulled clear from the dummy, the main parachute blossomed out to safely lower the dummy back to the runway.

ARPA AND NASA STRIVE TO GIVE US FIRST MAN IN SPACE

In race for man in space ARPA and NASA have dropped prelim tests with small satellite capsules, will work with actual full-scale space capsules. Air drops come first, then ballistic trajectories, finally true satellites. Air drops now being conducted at NASA's Langley Research Center. Russia known to have completed advanced animal tests which US still must complete before using man.

SOVIET STRENGTH FIGURES ON AF

Recent info in Military Review, official Army top-command mag, puts Soviet AF as follows: personnel, about 800,000; jet interceptors, 10,000; fighter-bombers, 3,500; tactical bombers, 5,000; strategic bombers, 800.

BOLD ORION TO BE SAC'S STRONGEST WEAPON

Two-stage, solid-fuel ballistic bird is launched by jet bomber 1000 miles from target. Still highly classified, BOLD ORION said to be AF version of Navy's POLARIS. Although Lockheed builds Navy's POLARIS, some other contractor will provide B. O. for AF. Martin, Thiokol Chem bid. BOLD ORION pitch is pegged on idea that missile launched from fast-moving a/c would have advantage of built-in altitude and speed to begin flight to target. Hence, faster a/c means more range for B. O.

MIDAS EARLY WARN USES INFRARED & SNIFFER

New early warning system called MIDAS said to detect ionization trails of enemy ballistics and temp changes to give appx 25 minute warning of attack as compared with present warning systems of five to 15 minutes.

CHANCE VOUGHT MAKING STRONG PITCH FOR HUSH-HUSH WEAPON

After losing heavily by cancellations of both REG II and CRUSADER III contracts, CVA is making bid for new space weapon, unmanned, that would recap prestige and greenbacks. Navy won't let "old friend" down and is sure to toss CVA some sort of bone after pulling out rug.

MISSILE FUND CUTS MAY HIT TITAN; THOR, JUPITER ALSO LIKELY

Administration, in seeking to hold defense spending to appx \$41,000 million in spite of recent Soviet space success, will very probably curtail TITAN — THOR and JUPITER programs also appear likely for cuts.

AF MAY CUT WING STRENGTH

Congress will probably order USAF to reduce wing strength from 105-wing level now current. USAF now has appx 20,500 active aircraft in 43 SAC, 35 TAC and 25 air defense wings in addition to logistic and other support a/c.

NEW OFFICE ESTAB BY SBA FOR SMALL BIZ R&D PARTICIPATION

Small Business Administration is establishing a Research & Development Division to aid small biz in obtaining Govt contracts in R&D.



AIR SPACE

The new Vortex Ring parachute, equipped with sail-like cloth blades that spin like a helicopter's rotor, has been designed and developed for military paratroop and cargo air drop operations, missile recovery and ground-braking of high-speed aircraft. It is shown here under test as a ground brake to slow down aircraft after they

land. In this application, the new parachute rotates in a vertical plane. It is being produced and marketed under license by Pioneer Parachute Co., Inc., a subsidiary of Reliance Manufacturing Company of New York and represents the first major change in parachute design in 50 years.

MISSILE CANCELLATIONS: RAT, RASCAL, GOOSE

Navy's rocket-boasted homing torpedo, RAT, which received great praise a few months ago, is being replaced by secret more advanced anti-sub weapon. RASCAL, Bell's GAM-63 air-to-ground missile, was to be AF weapon for SAC use. AF found it unsatisfactory, for a time considered replacing RASCAL with Navy's BULLPUP, now will get HOUND DOG to be built by North American. GOOSE, built by Fairchild, was to be decoy missile powered by Fairchild's own J-83 engine. Now GOOSE and J-83 cancelled. ///Pent OPI 0115/

PROJECT DISCOVERER

Satellite launchings from new Pacific Coast range will be made soon. Although not announced, Pentagon sources say animals will be carried in these shots. ///DATA/

PROJECT MERCURY

NASA Chief, Keith Glennan, says manned satellite weighing several tons — PROJ MERCURY — is long-range effort. This means we're getting ready to try but first shots with dummies and animals may not be too good so don't hold your breath. Rocketdyne Div of NAA recently picked up fat contract for single-chamber rocket engine with appx 1,500,000 lbs thrust needed to put MERCURY up. ///NASA/

NIKE-ZEUS MEANS FULL POCKETS FOR DOUGLAS, WESTERN ELEC

A total of \$6,000,000,000 is said to be outlaid for NIKE-ZEUS anti-ICBM missile sys. Douglas A/C is building airframe, Western Elec has guidance, Grand Central Rocket won't suffer by making solid propellant boosters. Expenditures on NIKE-ZEUS for current fiscal year alone will run \$250,000,000. ///Pent OPI 0121/

CRANE HELICOPTER

Huge crane helicopter capable of carrying six tons of cargo is under construction by Sikorsky. Scheduled to fly in '59. ///Sikorsky/

SIGNIFICANCE OF P6M TERMINATION

Martin P6M SEAMASTER, jet seaplane originally designed as mine-layer, photo recon ship and bomber, now scrapped by Navy. Reasons: Long-range missile ability of enemy makes mining of waters unrealistic. As photo recon ship, even jet bomber too slow against anti-air missiles. For bombing missions, P6M not as effective as SAC a/c and IR-ICBMs. Navy took delivery of 14 SEAMASTERS, had originally contracted for 24.

///Pent - DATA/

BEECH RECEIVES \$6 MILLION FOR TARGET A/C

Beech will receive \$6,547,387 for production of KDB-1 target a/c for Navy.

///Navy Info/

GRUMMAN GETS \$4 MILLION FOR UF-1 TO UF-2 CONVERSIONS

In \$4-million-plus contract, Grumman A/C will provide for Navy the services and materials necessary for Navy's UF-1 a/c conversions to UF-2 configuration.

///Navy Info/

AF GIVES TITAN LAUNCHING CONTRACT TO AMF

American Machine & Foundry has recvd \$29-million-plus contract, as associate contractor, from USAF for design and devlpmt of launching system for TITAN ICBM. Other contractors engaged in TITAN program are: Martin-airframe, Aerojet-liquid rocket engines, Bell Telephone-guidance, Avco-nose cone, Space Tech Labs-tech direct and sys eng.

///Pent OPI 120258/

\$17 MILLION TO SIKORSKY FOR HSS-2 TWIN-TURBINE ASW 'COPTER

Production contract of \$17 million follows \$15 million contract given to Sikorsky earlier for design data and mock-up of first turbine helicopter. HSS-2 has flying boat hull and all-weather flight capabilities. Both Navy and USMC will use HSS-2. Engines are G-E T-58s.

///Navy Info/

REPUBLIC GETS \$25 MILLION FOR JET-POWERED RECON VEHICLE

Army will use Republic jet-powered SWALLOW as recon vehicle carrying infrared and convent photo cameras as well as TV transmitters. Signal Corps will use. SWALLOW is small delta-winged guided a/c. Recovery is by parachute. \$25,000,000 is for undisclosed number.

///Army Info/

NUCLEAR A/C CONTRACTS

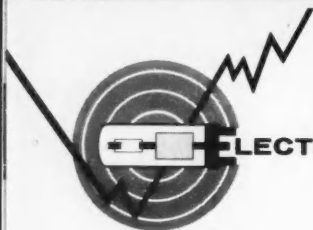
Congress appears likely to reduce funds for US nuclear a/c program, WS-125A. Federal budget for next fiscal year will concentrate more on ICBMs, space vehicles.

///DATA/

FLUORESCENT FILM FOR ANTI-COLLISION

Minnesota Mining & Mfg, makers of Scotch Tape, announce unique anti-collision fluorescent plastic film which can be stripped on all a/c to aid in reduction of mid-air accidents and for better a/c viz.

///3M/



ELECTRONICS COMMUNICATIONS

NAVY ANTISUB NEPTUNES TO GET IMPROVED DETECTION SYS

About 350 US Navy P2V NEPTUNE patrol planes will be equipped with what Navy calls "new concept" in sub detection. This is most probably sniffer gear (odoriferous homing) which DATA reported in June 1958, which uses ionization of air caused by sub exhaust to be used as homing impulse by search a/c. Navy will not comment on new gear. ///DATA/

THERMOELECTRICITY: POWER HOPE FOR TOMORROW?

Recent atom-powered battery using nuclear materials as heat source is only one step in great interest of converting heat to electrical power. Five-page article in current Office of Naval Research Research Reviews, official ONR house organ, highlights Government interest in the system, points out many interesting effects and resultant benefits. Idea centers on fact that two dissimilar conductors of heat can produce elec current. Seebeck and Peltier Effects discussed. If interested, contact ONR. /D/

NEW AEW CONTRACT PROPOSED

Several aircraft companies are trying to sell USAF a new air early warning plane. Lockheed, pushing modified ELECTRA; Douglas, pitching turboprop version of DC-6 or -7; Boeing, selling adaptation of KC-135 jet tanker — all want AF biz on new project. It is evident that AF threw out AEW needs to these mfgs, yet AF won't comment re: AEW need or if contract will materialize. ///DATA/

NAVY AWARDS \$23 MILLION FOR ANTISUB PLANES

Martin A/C, who recently got stop order on P6M SEAMASTER, will receive fat Navy bone for \$23 million to build conventional piston-powered Martin MARLIN P5M-2 seaplanes carrying Navy's new "hush-hush" detection gear. ///Navy Info 0111/

MOBILE COMMUNICATIONS CENTER

Dvlpd by Army Signal R&D Lab, Ft Monmouth, new sys is made up of separate aluminum houses or "shelters", each fully equipped and independent. These can be air dropped, carried by 'copter, hooked up quickly to fit any battle situation. Small centers for front lines would have two or three shelters. Larger hqs would have as many as 24. Each shelter carries own power supply. ///Army SigC/

AF UFO STUDY SHOWS "UNKNOWN" DECREASING

Latest tabulation of Unidentified Flying Objects reports by AF authorities and scientists of Air Tech Intelligence Cent has set record low for number of cases classified as "unknown". Unknowns reported between July 1958 and Dec 58 totalled 296. AF has now explained all but 1% of this total. ///AF Info 0122/

SPECIAL OFFER!

Protective Coating Charts and Tape Book Available!

JS-1 COATING MATERIALS FOR NAVAL AIRCRAFT USE

NAVAER 00-85-01-051

Currently in use at Naval repair facilities, ship & shore. Large chart, 48 inches long by 19 inches wide, lists primers, dopes, laquers, enamels, varnishes, resin coatings, anti-fouling paints, rubber materials, predoped fabrics, aluminum pigment powder and paste, sanding surfacers and rubbing compounds. These coating materials are then subdivided into the following columns: specification, colors, applications, procedures & processes, thinners, composition, and descriptive remarks. Sturdy paper is suitable for wall mount or folds to 9½ x 12 inch package. \$4.

JS-2 CORROSION PREVENTATIVE COMPOUND USED IN THE PRESERVATION OF NAVAL AIRCRAFT

NAVAER 00-85A-505

Currently in use at all Naval repair facilities, ship & shore. Large chart, 28 x 24 inches, lists 18 types of corrosion preventatives used by the Navy for various purposes. Columns subdivide these compounds into the following headings: specification, intended uses, description and composition, methods of application, methods of removal, units of issue, stock numbers, remarks. Folds to 7 x 12. \$4.

JS-3 HANDBOOK OF INFORMATION PRESSURE SENSITIVE AND SOLVENT ACTIVATED TAPES USED BY THE NAVY BUREAU OF AERONAUTICS

NAVAER 07-25-501

Currently in use at Naval repair facilities, ship & shore. This 39-page booklet was pub-

lished 1 August 1958 and supersedes NAV-AER 07-25-501 (Wall Chart) dated July 1952. All types of pressure sensitive tapes used by the Navy are discussed, 17 in all. A section on solvent activated tapes describes the 3 types used by the Navy. Military specification numbers, intended use precautions and methods of application are given along with standard Navy stock numbers. Descriptions of the tapes include dimensions and colors available along with backgrounds and tensile strengths. According to the Materials Handling division of the Bureau of Aeronautics, this booklet is a complete guide to Navy pressure and solvent activated tapes and has many innovations over the old wall chart it supersedes. Storage of tape instructions and a cross reference index are also in the book. It is sturdily bound in heavy gray stock and three-hole punched for notebook file. \$4.

DATA PUBLICATIONS

Dupont Circle Building
1346 Connecticut Avenue, N.W.
Washington 6, D. C.

Gentlemen:

Please send me the items I have checked below.

☐ JS-1 \$4 ☐ JS-2 \$4 ☐ JS-3 \$4

☐ Payment enclosed

☐ Bill company

☐ Bill me

NAME _____

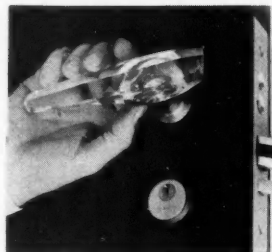
POSITION _____

COMPANY NAME _____

ADDRESS _____ CITY-ZONE-STATE _____

CONSTRUCTION

Yale glass lever handles will be used throughout the 28-story Corning Glass Building now being constructed in New York City. The new building will be the first office skyscraper to have locks equipped with glass lever handles.



HOOD CONSTRUCTION BUILDS WATER SUPPLY LINE AT GLASGOW, MONT.

Hood Construction; Cherf Bros, Sandkay Contractors of Boise, Idaho, rcvd \$2,235,121 contract for construct of water supply line at Glasgow AFB in Mont. Award made 2 Jan 59. ///Walla Walla Eng/

RUNWAY ACCESS PAVING AT FAIRCHILD AFB, SPOKANE

N Fiorito Co of Seattle rcvd \$2,743,907 for runway paving at Fairchild AFB. Award made by Army Engineers, Seattle, 2 Jan. ///Army Eng/

CONSTRUCTION AT REDSTONE

Army announced 10 Dec 58 award of contract for new building at Redstone. Construction of a preflight eval lab will cost \$1,060,947. Other contract for \$1,042,252 calls for construction of propellant dvlpmnt facil. Both contracts were awarded by Mobile Dist Army Corps of Engineers to the Pearce & Gresham Co of Decatur, Ala. ///Army Eng/

ARMY AWARDS \$16 MILLION FOR BARKLEY DAM

Award of \$16,379,035 to the Tecon Corporation of Dallas was announced recently by Army for construction of a lock on Barkley Dam project on Cumberland River in Livingston County, appx 25 miles east of Paducah, Ky. Project is under supervision of Nashville Dist Army Corps of Engineers. ///Army Eng 1205/

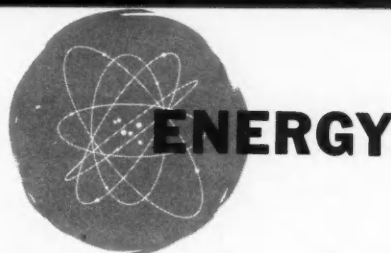
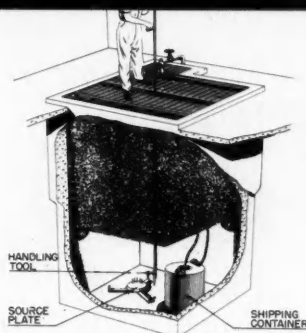
LOCKHEED ANNOUNCES PURCHASE OF 198-ACRE SITE FOR RESEARCH

Lockheed is building advanced research center on new tract of land near Company's Burbank facilities. Located near US Hwy 99 in Rye Canyon, Lockheed will build \$5 million supersonic wind tunnel and hi-alt test facil to simulate space conditions. ///Lockheed 1211/

ARMY ENGINEER CONTRACTS: DREDGING, GRADING, PAVING

Army Engineers recently announced the following contracts: American Dredging Co, Phila., a \$1,578,640 contract for channel excavation of the Delaware River, Phila. Harbor. List & Clark Construction Co, Kansas City, a \$1,509,130 contract for grading and relocation of the St. Louis-San Francisco RR at the Keystone Reservoir Project, Tulsa and Creek Counties, Okla. Standard Dredging Co of New York rcvd \$1,438,915 contract for dredging and repairing levees and spillways on the Houston ship channel, Harrison County, Texas. Ballenger Paving Co, Greenville, S. C., got \$1,155,640 for construction work at Turner AFB, Albany, Ga. ///Army Eng Info 1215/

Artists drawing of NRL's cobalt 60 source (see first item below).



NRL TESTS EFFECT OF IRRADIATION ON ELEC STRENGTH OF AIR

Effects of hi-intensity gamma radiation on electric strength of air is being determined in Naval Research Lab's 3500-currie, cobalt 60 source. To date, effects of direct-current, 60-cycle alternating-current, and microsecond-pulse (of three different repetition frequencies) voltage wave shapes have been determined and analyzed statistically. During these experiments, an increasing trend in the successive breakdowns under any one condition was noted and analyzed. Future plans include the use of different types of controlled atmospheres between the electrodes for the purpose of isolating the cause or causes of this trend.

///NRL Progress/

AEC SEEKS INTEREST IN ESTAB OF GAMMA IRRADIATOR

The Atomic Energy Commission is seeking expressions of interest in private firms and organizations in undertaking, with Commission assist, design, construction and operation of a Gamma Process Dvlpmnt Irradiator for R&D on indust applications of hi-level radiation. ///AEC/

AF SELECTS SUNDANCE, WYOMING BASE FOR NUCLEAR POWER PLANT

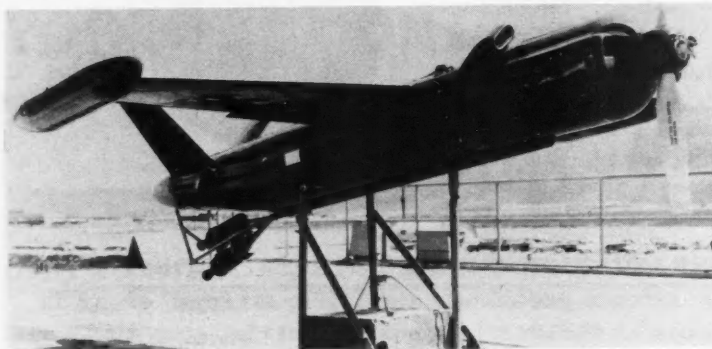
USAF has selected Sundance Air Force Station in Wyoming, as site for installation and test of factory-assembled, modular nuclear power plant for use in remote military installs. Sundance AFS, a new Air Defense Command A/C Control and Warning (AC&W) site, has been authorized for construction which is forecast to begin soon. ///USAF Info/

POWER TRANSISTORS WITH FAST-SWITCHING BY TEXAS INSTRUMENTS

The 2N559 ultra-hi-freq, diffused base "mesa" germanium transistors are being produced by Texas Instruments for advanced military and commercial applications. The Texas Instru transistor has speeds in the millimicrosecond range, typical alpha cutoff, and dissipation of over 150 milliwatts in free air. Operates at up to 100 degrees (C). ///Texas/

ULTRAVIOLET LIGHT FOR CHECKING VALVES

Use of ultraviolet light and fluorescent dye on metal to metal surfaces for checking purposes was suggested by an employee of US Naval Repair Facility, San Diego. Navy says method is more accurate than previous sys of using Prussian Blue for checking the mating surfaces of high pressure steam valve disks, seats and turbine casing joints. The fluorescent liquid dye is applied with brush to surface and allowed to dry. Valve disk is put in place until parts make contact. When disk is removed, ultraviolet light on seat will show area of contact clearly. ///BuShips/



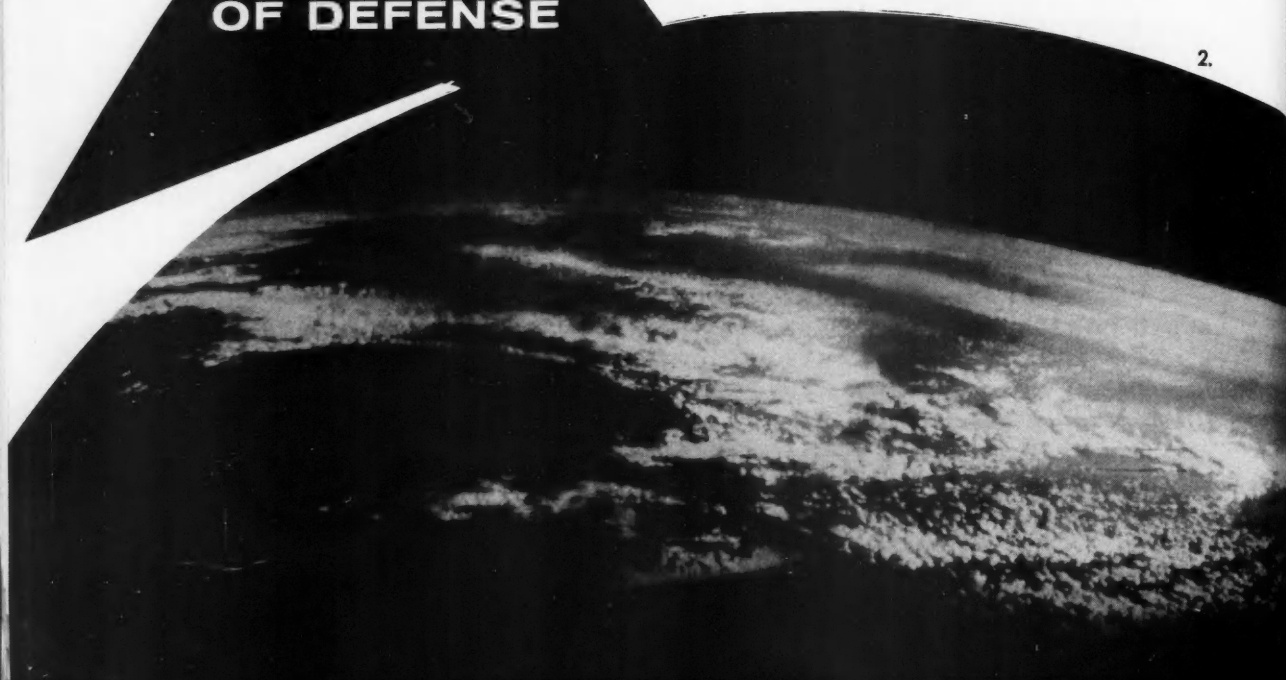
1.

1. The Navy has awarded Beech Aircraft Corp. a \$8,700,000 contract for production of this remote-controlled target aircraft. Designated the KDB-1, the Drone will be used for surface-to-air and air-to-air weapon systems evaluation and training, including missile firing missions. Powered by a 120 HP McCulloch engine, the KDB-1 can attain a speed of 300 knots and reach altitudes in excess of 40,000 feet.

PHOTO DATA FROM DEPARTMENT OF DEFENSE

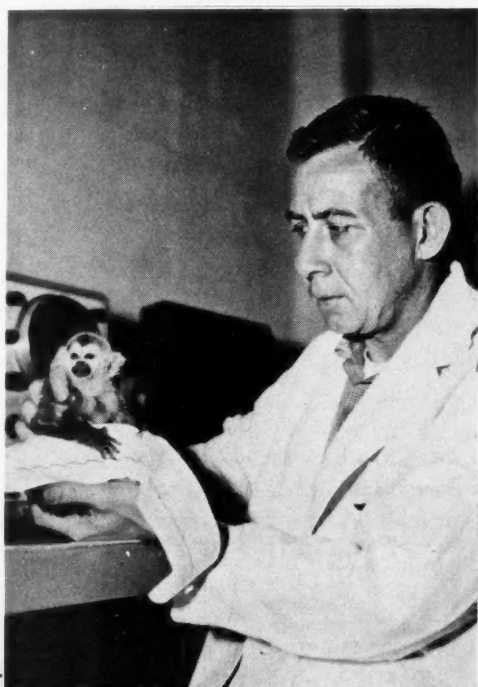
2. These are the first pictures obtained from Project Hugo (High Unusual Geophysical Operations) Rocket which soared to an altitude of 86.25 miles during its first test flight on December 5, 1958. The U. S. Office Naval Research is testing this Rocket-camera unit designed specifically to photograph high altitude ocean cloud formations associated with hurricane and weather frontal systems. In this picture, a composite of five photographs, a frontal cloud formation is shown over the Atlantic Ocean starting about 200 miles off shore and stretching nearly 700 miles further seaward.

2.



3 Lt. J. H. Verrian, MSC, U. S. Navy, holds a South American Squirrel Monkey similar to the one which traveled in the Army's Jupiter fired at Cape Canaveral, Florida, Dec. 13, 1958. Lt. Verrian is shown in a Navy Aero-medical facility at Pensacola, Florida.

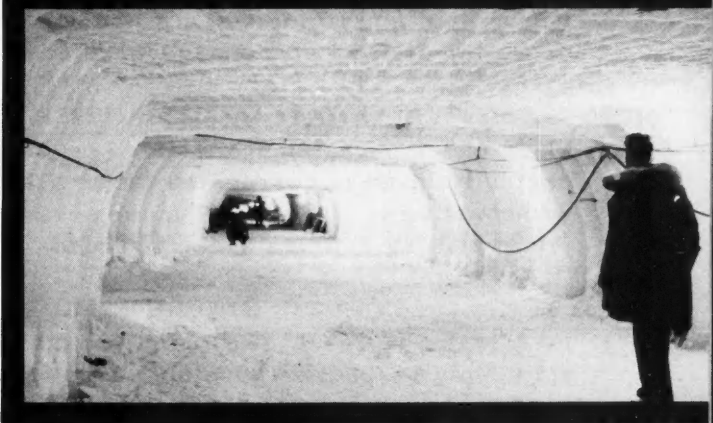
4 Mr. James Murphy, Research and Development Gunner from the Army's Springfield Armory demonstrates the ease in handling the new 23-pound M-60 machine gun during tests at Fort Devens, Massachusetts.



3.

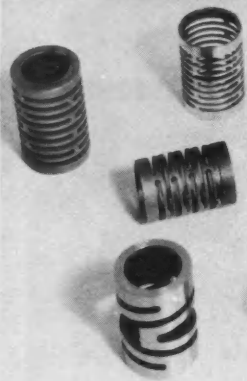


4.



5.

5. Army Corps of Engineers, soldiers and scientists, have carved out a new 1150-foot tunnel in the Arctic Ice Cap as a research project of the Snow, Ice and Permafrost Research Establishment (SIPRE). Tunnels in the ice could provide means of storage, transportation, quarters, and other facilities with a high degree of protection. The cutter head piece of commercial equipment known as the JOY Continuous Miner, utilizes a bank of chain saws like teeth which shave the ice face.



LOGISTICS MATERIALS

Designed expressly to meet the precision requirements of instrument and control designers, these newly developed compression springs are now being introduced by Consolidated Controls Corp. in two basic classes, identified as the "Herringbone" and the "Gimbal."

SELF-LUBRICATED BEARINGS DVLDPD

American Metal Products announces dvlpmt of Fiberglide non-lubricated lifetime fabric bearings, completely eliminating grease fittings and facilitating maintenance-free automotive steering and suspension. To be used in 1960. ///AMP 12-58/

NEW INFRARED SEARCHER OPERATES UNOBSERVED

As substitute for continuous radar operation, Haller Raymond & Brown has invented sys employing infrared radiation to make original detection and determine direction of an object. After discovery, short series of radar pulses obtains range, minimizing electronic counter-measure detection by enemy because of slight duration of radar ops. ///HR&B/

CARBIDE-TIPPED DRILLS PROVE ECONOMICAL

Army reports as much as 50% savings in machine time alone, plus economy in tooling and maintenance costs with use of carbide-tipped gun drills for drilling stationary workpieces of hi-alloy steel. ///ComDept/

NEW "SANDWICH" BEATS HEAT BARRIER

Made of temp-resistant metals, Republic Av's new kind of sandwich is basically layer of corrugated metal filler between 2 flat sheets. Can withstand up to 2000-deg F under severe pressure in space craft and jets traveling 9-times speed of sound. ///Republic Av Co/

FUEL TESTS ON TURBINE ENGINE FAILURE

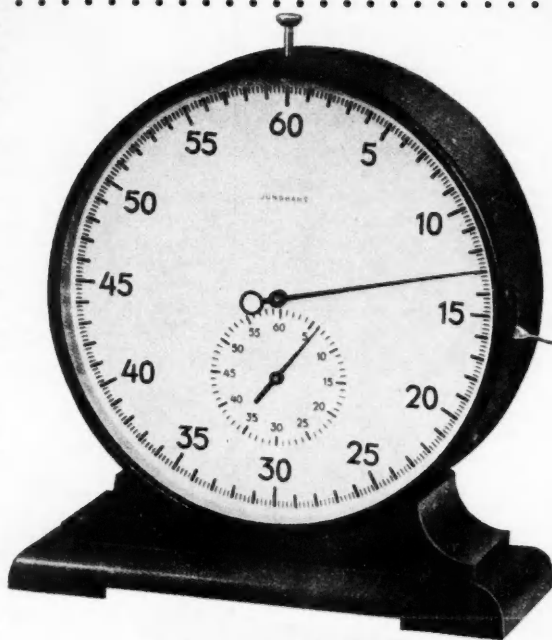
FAA tested JP-4 fuel in J35 and J47 turbine engines, with engine prime air supply suspect as possible cause of explosion. Each engine failed when fuel approached 1% of engine primary air weight. J35 failure due to overheated components. J47 failure caused by compressor stall. ///FAA/

TEST SET SERVICES ICE DETECTION SYS

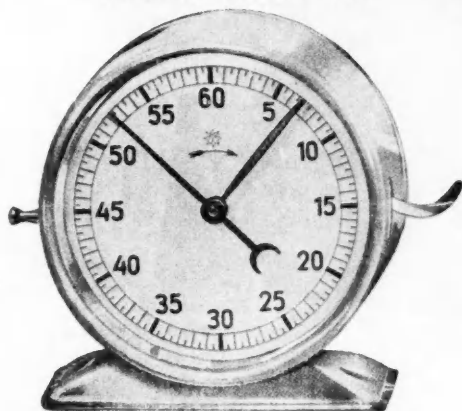
Canadian Applied Research announced new Ice Detector Test Set T272, for testing CARL's Ice Detectors and detecting faults in associated aircraft electrical wiring. ///CARL #60/

NAVY AWARDS \$20 MILLION FOR RADAR NAV GEAR TO RYAN AERO

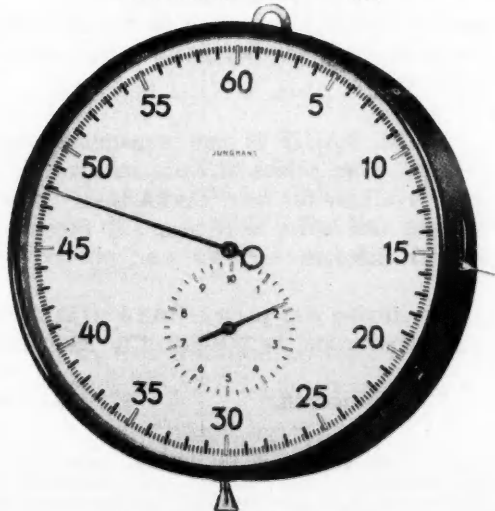
Ryan will produce APN-122(v) all-weather airborne ground velocity indicator using continuous-wave Doppler radar. ///Ryan A/C/



Desk model with 8" dial



Desk model with 4" dial






Wall model with 8" dial

put an end to stop watch troubles
with dependable giant dial

DURACHRON

spring-wound 48-hour stopclocks

-  **Stopwatch performance**
-  **Easier to read**
-  **will take rough handling**

Free from electrical cords or current interruptions—thoroughly portable and handy in the extreme—Durachron is a precise spring-wound stopclock with the same action as a stopwatch. Just as easy to use, far easier to read, and infinitely more durable.

And it has this great advantage over a stopwatch—it frees both hands for whatever manipulation must be done during the timing operation. That's why it is preferred for hundreds of industrial and laboratory jobs.

Giant dials 4 inches or 8" in diameter, give you a vast advantage in reading over conventional small-dial stopwatches, yet these timers cost no more.

Costs Less Than A Good Stop-Watch

Useful wherever timing observations to a split-second are required.

Dependable. Freedom from the delicacy of small stopwatches often "out" for repairs.

Easy to Read. Legible "giant" dial, visible clear across the room. Glass front keeps dial clean.

Accurate. Superb timing movement, with fine stopwatch precision.

Rugged. Heavy metal case. Substantially constructed for years of rigorous use, even in laboratory atmospheres.

Economical. Costs less than an ordinary stopwatch, and will outlast a stopwatch five to one.

All models offer 3-WAY timing control

- 1** Stop the action, read the elapsed time, then resume timing *without returning to zero.* "Time-out" control is very desirable when the action observed is interrupted and you want to total up the action time without counting interruptions.
- 2** Stop the hands, read elapsed time, then return to zero and start over. Most prevalent method for simple, repetitive timing operations.
- 3** Read the elapsed time "on the fly" while the sweep hand is in motion, then snap the hands back to zero by pressing the top stem—without stopping the clock. On releasing the stem, the sweep hand starts around again instantaneously.

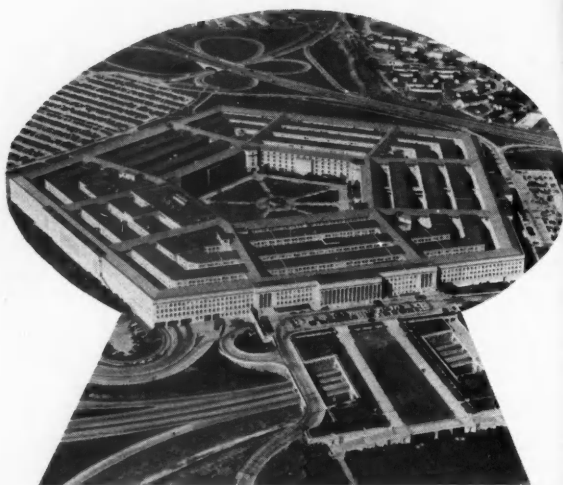
Cat. No.	Dial Dia.	Calibration	Model	Each
8520	4"	60 sec.—1/5	Desk	17.50
8522	4"	1 min.—1/100	Desk	17.50
8526	8"	60 sec.—1/5	Desk	24.50
8527	8"	1 min.—1/100	Desk	27.50
8528	8"	60 sec.—1/5	Wall	22.50

ANDREW

TECHNICAL SUPPLY COMPANY

7068 North Clark St., Chicago 26, Illinois

HERE'S THE KEY TO DOD!



DATA DAILY from DOD began in May 1957 on a limited basis when the Department of Defense discontinued mailing their releases. The Defense releases are now available at the military information releasing offices in the Pentagon and anyone who wants a copy of each release can pick them up there. But trips into Arlington are both time consuming and expensive, so DOD began providing DATA with a set number of copies of each release for a restricted number of DATA DAILY subscribers. DATA, in turn, mails these releases and maintains a mailing list at no expense to the Government.

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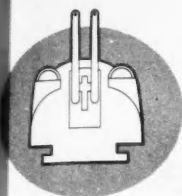
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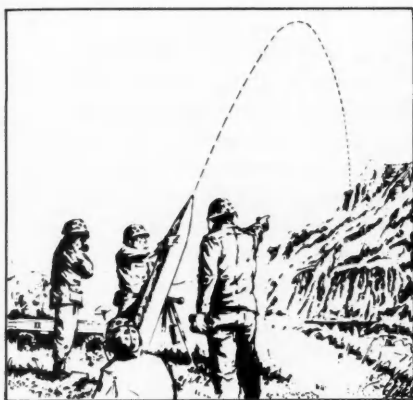
RDNANCE

Engineers Robert A. Brown, left, and Joseph E. Waikem check a radome during the early stages of a thermal shock test in the environmental test laboratory at Goodyear Aircraft Corporation.



ARMY ENGINEERS DVLP ELEC-POWERED FIREFIGHT VEHICLE

Army Engineers at Ft Belvoir, Va, have made first application of electric-powered pumps to a firefighting vehicle. A self-operating pumper trailer dvlpd by the Firefighting Branch of the Engineer Research and Development Lab for use at NIKE missile installations is powered by two electric pumps. Each pump has capacity of 50 gpm at pressure of 100 lbs/sq in. Trailer has decontam shower for personnel. ///ERDL/



Emergency supply by Lobber missile

THE LOBBER, BALLISTIC CARGO MISSILE

The LOBBER, a ballistic cargo missile designed for delivery of supplies to front-line troops whenever and wherever needed, is reported to have range of six to eight miles and payload of appx 150 lbs. The missile and launcher can be hand-carried, if necessary, by three men. It is designed specifically for accurate delivery of its cargo, and can be adapted to offensive ops with payloads of napalm, chems, hi-explosive or nuclear warheads. LOBBER is expected to be of use in supplying troops isolated by terrain or enemy action; monitoring radioactivity and other surveil & supply jobs. ///Mil Review/

FIBERGLASS LAUNCHERS

Four types of fiberglass reinforced plastic rocket launchers have been dvlpd by a British firm. Some of the advants of the fiberglass construct are said to be economy of mfg, use of nonstrat matl, excellent storage quals and lack of elec conduct. ///Mil Review/

A-ROCKETS INVADE JACKASS FLATS

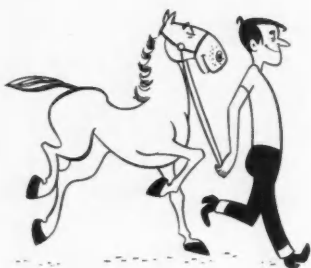
"Only a jackass would live there," say Nevadans. However, the ghost town of Jackass Flats, Nev, has been picked as the US lab and test ground for the new ncult-powrd rockets. ///AEC/

SPACE AGENCY WANTS BASE AT CHINCOTEAGUE

NASA has announced that it is negotiating with Navy to take over Chincoteague, Va, NAS which is sked to close down 1 July for econ reason. ///N/

OP REQUIREMENT FOR INVIZ CONTRAILS

Research Trends, house organ of Cornell Aero Lab, says vapor left by jet a/c points out planes, AF would like to elim tell-tale trails. ///Cornell/

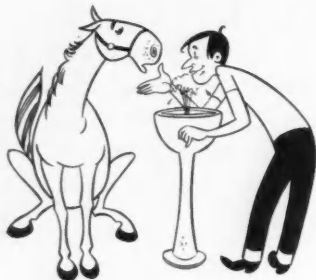


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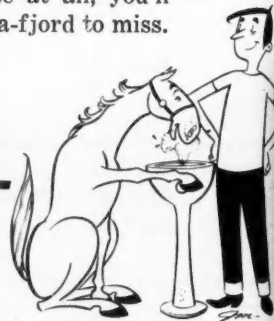
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- C-25 **WHO'S WHO in NAVY INFORMATION** \$2
Key personnel, rooms and phones in block diagram format with added location list.
- C-29 **ARMY ENGINEERING R&D LAB, FORT BELVOIR** \$2
ERDL, the Army's engineering research and development lab. Key personnel, room and phones in block diagram format.
- C-30 **USAF AIR MATERIEL COMMAND** \$2
The central buying activity of the Air Force. Key personnel, rooms and phones in block diagram format.
- C-31 **NASA NATIONAL AERONAUTICS AND SPACE ADMINISTRATION** \$2
Key personnel, rooms and phones in block diagram format.

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CURRENT CHARTS

- C-1 **WHO'S WHO in SECDEF OFFICE** \$2
The Office of the Secretary of Defense, Pentagon. Complete block diagram shows functions, relative authority, lines of influence, names, room and phone numbers.
- C-2 **WHO'S WHO in the NAVY DEPARTMENT** \$2
Over-all Navy Department guide for Washington area. Gives diagram breakdown under Secretary of Navy for key personnel and offices in CNO, BuAer, BuMed, BuOrd, etc. Room and phone numbers, names kept up-to-date.
- C-3 **WHO'S WHO IN DEPARTMENT OF ARMY** \$2
Headquarters offices of the Army in the Pentagon and elsewhere set forth in complete detail including names of hundreds of key officials, room numbers, phone extensions.
- C-4 **WHO'S WHO in the AIR FORCE** \$2
Complete chart of the Air Staff divisions. Line and staff officials shown down to the fifth echelon. Rooms and phones.
- C-5 **WHO'S WHO in the OFFICE OF NAVAL RESEARCH** \$2
Departmentalized listing of key personnel with rooms and phones on one side of chart. Block diagram of ONR offices on flip side.
- C-6 **AIR FORCE INSTALLATIONS MAP** \$5
Guide to every major A.F. installation in Continental U. S. Printed on sturdy 22 & 34 inch stock suitable for wall mount.
- C-7 **AIR FORCE OFFICE of SCIENTIFIC RESEARCH** \$2
New version of our popular AFOSR reference. AFOSR has moved to new quarters. We have names of all new personnel, new room numbers, phone extensions. Flip side has block diagram.

C&R

- C-8 WHO'S WHO in ARPA \$2
Guide to the Advanced Research Projects Agency of the Department of Defense.
- C-9 U. S. ARMY SIGNAL CORPS—WASHINGTON
Complete block diagram is excellent locator of all key U. S. Army Signal Corps personnel in Washington area. Names and titles along with room numbers, phone extensions and divisional responsibilities.
- C-10 U. S. ARMY SIGNAL CORPS—FORT MONMOUTH R&D LABS \$2
This combination chart is really two complete charts in one. Administrative breakdown, personnel, rooms and phones on one side. Research & Development key personnel, project officers, and other Ft. Monmouth R&D Lab personnel with rooms and phones on other side.
- C-11 U. S. ARMY SIGNAL SUPPLY AGENCY—PHILADELPHIA \$2
Very useful chart of all key people, room numbers, phone extensions, chain of command in USASSA. If you want to sell anything to the Army Signal Corps, this is the key chart.
- C-12 WHO'S WHO in CAA \$2
Very complete listing of 344 key officials of Civil Aeronautics Administration. Room and phone numbers for all key Washington people, key regional officers listed.
- C-13 WHO'S WHO in JOINT CHIEFS OF STAFF \$2
Joint Chiefs of Staff listing of all 305 key officers, titles, room numbers, extensions on one side. Flip side has chain-of-command block diagram with names filled in.
- C-14 WHO'S WHO in BUAER \$2
BUREAU OF AERONAUTICS chart gives key personnel, room and phone numbers in block diagram for this Navy bureau.
- C-15 WHO'S WHO in BUSHIPS \$2
BUREAU OF SHIPS chart key personnel, room and phone numbers in block diagram for this Navy bureau.
- C-16 WHO'S WHO in BUORD \$2
BUREAU OF ORDNANCE chart gives key personnel, room and phone numbers in block diagram for this Navy bureau.
- C-17 ARMY CHIEF OF ORDNANCE \$2
ARMY ORDNANCE chart gives key personnel, room and phones in block diagram.
- C-18 ARMY HEADQUARTERS 2ND US ARMY FORT MEADE \$2
Key personnel, room and phones in block diagram format.

- C-19 ARMY DEPUTY CHIEF of STAFF \$2
Key personnel, rooms and phones in block diagram format.

CURRENT REPORTS

- R-1 AIR FORCE BASES (Revised August 1958) \$2
New bases and name changes are reflected in latest DATA compilation of USAF bases in both continental U. S. and overseas. Perfect supplement for AF map.
- R-2 U. S. MISSILES CONTRACTING GUIDE \$2
July 1958 issue of DATA. Full information concerning military contracting officers, prime contractors and principal sub-contractors. Also includes special fact sheet on Advanced Research Projects Agency.
- R-3 NAVY BASES \$2
Compilation of 246 shore activities of the U. S. Navy including air stations, communications stations, shipyards, experiment and test stations, laboratories, ordnance plants.
- R-4 ARMY BASES \$2
Alphabetical listing and addresses of all Class I, II, III bases of Army within continental U. S. Includes arsenals, experiment stations, supply centers, etc.

SPECIAL ITEMS

- JS-3 HANDBOOK OF TAPES USED BY BUAER \$4
39-page booklet gives info on 17 pressure tapes, 3 solvent activated tapes, used by Navy's Bureau of Aeronautics.
- JS-1 COATING MATERIALS FOR NAVAL AIRCRAFT \$4
Large chart, 48 x 19 inches, gives info on laquers, enamels, varnishes, resins, anti-foul paints rubber paints, ID paints, non-slip dressings, metallic pigments and rubbing compounds. Applications, procedures, thinners and descriptive remarks are listed with each paint. In use by Navy's Bureau of Aeronautics.
- JS-2 CORROSION PREVENTATIVES USED ON NAVAL AIRCRAFT \$4
Large chart, 28 x 24 inches, lists 18 types of corrosion preventatives used by Navy and gives info under headings tagged specifications, uses, description, composition, method of application, removal, etc. Navy stock numbers. Chart is in current Navy use.

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- JS-2.....CORROSION PREVENTIVE COMPOUNDS USED IN THE PRESERVATION OF NAVAL AIRCRAFT \$4
- JS-3.....HANDBOOK OF INFORMATION ON PRESSURE SENSITIVE AND SOLVENT ACTIVATED TAPES USED BY THE BUREAU OF AERONAUTICS \$4

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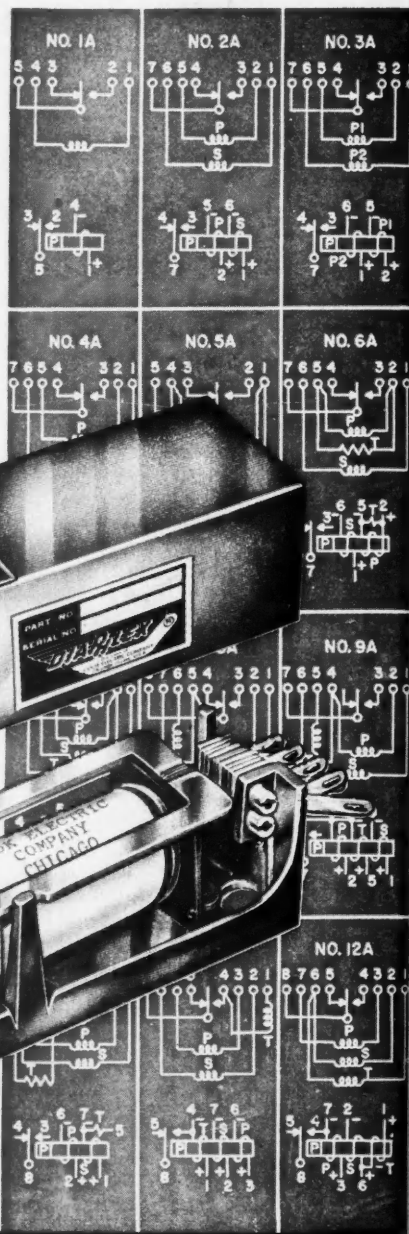
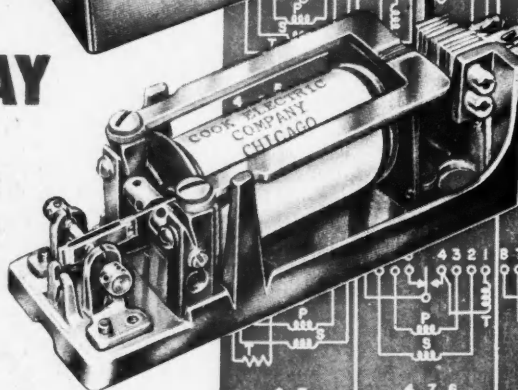
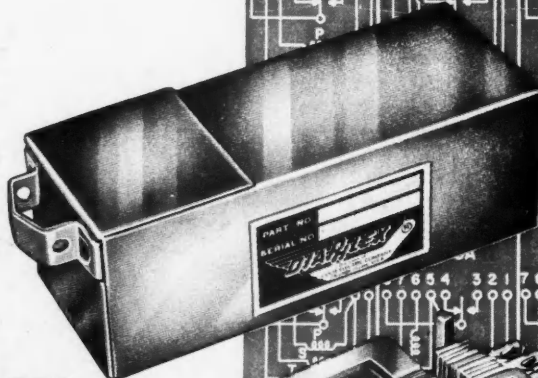
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